IN THE SPECIFICATION:

Please replace the paragraph beginning on page 3, line 22 with the following new paragraph:

The welding wire stored in the supply container is commonly in the form of a wire stack or coils having multiple layers of wire convolutions laid from bottom to top, with an inner diameter of the wire stack or coils being substantially smaller than the diameter of the container. Due to the inherent rigidity of the welding wire itself, the convolutions forming the layers are continuously under the influence of a force which tends to widen the diameter of the convolutions. However, as the welding wire is withdrawn from the container, the loosened wire portion tends to spring up and disturb or become entangled with other looped layers or with itself causing premature pop out of the wire loop to the inside bore, causing the top loop of the wire to ~~more~~ <u>move</u> under lower wire loops, causing the wire loop to stretch and extend beyond the outside diameter of the wire stack and thereby fall down the outer periphery of the wire stack, and causing an expanded loop diameter of the wire resulting in the wire popping up above the outer periphery of the retaining ring thereby catching the ring. In such cases, it becomes difficult to withdrawn the wire or feed the wire smoothly. In some of the prior containers, the wire is provided with a preselected twist when inserting the wire into the package in order to prevent torsional deformation of the wire which is being withdrawn axially from the non-rotating container. Consequently, the packaged wire of the wire stack or coils tends to spring up with a greater force. As a result, retainer rings or members are placed on the top of the wire stack or coils to hold the wire in the upper layers in place as it is withdrawn, convolution at a time, from the center opening of the wire stack or coils through the top opening of the supply container.

Please replace the paragraph beginning on page 4, line 7 with the following new paragraph:

In an effort to address these problems, an improved retainer ring was developed as disclosed in US 5,277,314. The retainer ring or retainer member included a generally flat outer portion with an outer periphery fitting into a set diameter of the inner wall of the container and had a number of projecting lobe portions whereby the outer periphery of the retainer ring contained alternate areas that were closer to and then farther away from the outer wall of the container when the retainer ring was resting on the upper surface or top of the hollow, cylindrical wire stack or coils of welding wire. The retaining ring also had an inner bell mouthed portion defining an innermost wire extraction opening wherein the convolutions of wire are pulled up through the bell mouthed portion which

extended upwardly toward the outlet guide in the top cover or "hat" of the container. The convolutions of wire, as they were pulled from the wire stack or coils, move inwardly toward and into the center cavity of the wire stack or coils and then upwardly through the bell mouth portion toward the exit guide in the container hat. The wire extraction opening defined by the upper end of the bell mouthed portion of the retainer ring included a diameter substantially smaller than the selected diameter of the wire stack or coils itself so that the wire must ~~moved~~ move inwardly before it can move upwardly. By using this bell mouthed concept, the inward movement of the convolutions from the wire stack or coils did not have better support against other convolutions and does not have better support drag along the bottom of the retainer ring as the convolutions from the upper layer were moved inwardly and then upwardly to the outlet guide in the cover or hat of the supply container.

Please replace the paragraph beginning on page 6, line 14 with the following new paragraph:

Loosely wound wire in a drum typically results in better wire placement during a welding operation; however, such loosely wound wire is more susceptible to tangling. Tightly wound wire on a reel is more resistant to tangling, but ~~more~~ is more likely to result in ~~have~~ having wire wobble (poor wire placement) during a welding operation. One reason for the higher incidence of tangling for loosely wound wire is that such loosely wound wire is more susceptible to vibration in normal shipping and handling than tightly wound wire on wooden reels. The wire loops of the loosely wound wire tend to move around during normal transportation to warehouse or customers. The moving or shift of the loosely wound wire in a container also occurs from handling abuse in a warehouse and in a factory wherein the drum is tipped to its side and sometimes laid sideways and rolled despite the warning label. Such improper handling tends to shuffle the wire loops and the original order of laying pattern is disturbed. A full drum of wire is typically not entire full but has head room left for the retainer ring. The drums of welding wire are sold with various weight specifications. Wire of various weights and diameters usually share the same fixed size drums. Therefore the drum must be large enough to accommodate the largest weight and smallest diameter (which has the largest volume) wire. As a result, the head rood in containers of wire varies from product type to product type. During shipping and handling of the container of wire, there is vibration which causes the stack of wire coils to act like a spring. A steel bar positioned in the top of the container and held down by a rubber band to the bottom of the drum is often used to restrain

bouncing of the wire stack during shipping and handling. Compressible foam is also used to fill the space between the top of the stack to the drum lid. The use of a steel bar and/or foam remedies are not 100% effective, thus stack bouncing still occurs during transportation and handling. As a result, there is noticeable settling of the wire stack (i.e. up to 5 inches) depending on wire diameter, loop and drum diameter, stack volume, and transportation distance and road condition. Settling of the wire in the container changes the original laying pattern thus resulting in the tangling of the wire as it is paid out of the container. The settling typically has a corkscrew form. Since the wire loops fan out in the same direction from the bottom of the drum all the way to the top, the wire has a natural "slope" for wire loops to corkscrew downward.

Please replace the paragraph beginning on page 10, line 18 with the following new paragraph:

In one aspect of the present invention, a packing machine used to pack the welding wire within a welding wire storage container includes a capstan that pulls the welding wire that has generally just been formed by a welding wire drawing benches. The welding wire from the welding wire manufacturing process is typically a solid welding wire or a cored welding wire, which cored welding wire includes fluxing and/or alloying materials. The packing machine also includes a rotatable laying head upon a first axis for receiving the welding wire from the capstan, and a turntable which supports a welding wire storage container. The welding wire is packaged within the storage container by rotating the laying head at a first rotational velocity and rotating the capstan at a second rotational velocity in order to determine the loop diameter of the welding wire which is being laid within the storage container. The turntable upon which the storage container rests is rotated about an axis which is typically parallel to the first axis of rotation of the rotatable laying head. Generally, for each loop welding wire placed within the storage container, the turntable rotates in a manner such that only a small portion of the circumference of the loop of the welding wire contacts the inner surface of the storage container. By rotating the turntable in such a manner, it is ensured that a subsequent loop placed within the storage container will contact the interior surface of the storage container at a second position along the interior of the storage container and adjacent the first position of a preceding loop. As thus far described, the apparatus and method of packing the welding wire into a storage container is similar to that of prior art welding wire packing arrangements. One novel aspect of the welding wire packing arrangement of the present invention

relates to the process of changing the effective rotational speed at least once relative to the laying head. This changing the effective rotational speed can be accomplished in several ways such as, but not limited to, varying the rotation speed of storage container in a particular rotational direction at least once during the welding wire packing process, reversing the rotational direction of the storage container at least ~~one~~ <u>once</u> during the welding wire packing process, and/or varying the rotation speed of the laying head in a particular rotational direction at least once during the welding wire packing process. In the past, the storage container remained stationary or was rotated in a single direction while the storage container was being packed with the welding wire, thus the effective rotational speed of the container relative to the laying head remained contain throughout the packing of the storage container with welding wire. In the packing method of the present invention, the effective rotational speed of the ~~contain~~ <u>container</u> relative to the laying head is varied at least once during packing of the storage container. It has been found that by varying the effective rotational speed of the storage container relative to the laying head at least once during packing of the storage, there is a reduction in the amount of shifting of the welding wire in the storage container when the storage container is shipped to different locations.

Please replace the paragraph beginning on page 21, line 23 with the following new paragraph:

Referring now to the drawings, wherein the showings are for the purpose of illustrating preferred embodiments of the invention only and not for the purpose of limiting the same, the present invention is directed to a novel method of packing welding wire in a storage container so as to minimize the shifting of the welding wire after packing and to also minimize the tangling (e.g., bird nesting, etc.) of the welding wire as the welding wire is dispensed from [[the]] a welding wire storage container. FIGURES 1-3 illustrate prior art arrangements for packing welding wire into [[an]] <u>a</u> storage container. The welding wire 20, such as welding wire, is fed into a storage container 30 and forms a central cavity 32 as the welding wire in packed in the storage container. As can be seen from FIGURES 2 and 3, the method of packing the welding wire in the storage container results in a loose density packing of the welding wire within the storage container wherein the welding wire has a higher density along the edge portion of the storage container and the inside diameter of the stack itself adjacent the central or wire stack or coils cavity than the density in the middle of the stack or coils. This is packing arrangement is caused by more welding wire being placed along the

edge portions of the storage container than being placed along the central or wire stack or coils cavity. The higher density of welding wire along the edge portion of the storage container is susceptible to welding wire settling in the storage container. The settling of the welding wire can result in the tangling (e.g., bird nesting, etc.) of the welding wire as the welding wire is paid out of the storage container. The present invention overcomes many of this these past problems with the settling of the welding wire after the welding wire has been packed into a storage container. The prior art of wire loop packing has one loop slightly offset from the previous loop, thus creating a continuous "slope". This slope spirals down from the top of the drum all the way to the bottom of the drum. This winding arrangement of the present invention intends to break this continuous slope by changing the fan-out direction of the loops, thus creating a mechanical interlock to inhibit or prevent a continuous sliding of wire loops during vibration.

Please replace the paragraph beginning on page 22, line 19 with the following new paragraph:

Referring now to FIGURE 4, a storage container winding system 40 is illustrated. The storage container winding system draws a continuous welding wire 50 from a manufacturing process (not shown). As can be appreciated, welding wire 50 can be package from a reel of welding wire (not shown) instead of being packaged directly after being formed from a manufacturing process. Welding wire 50 is typically welding wire and will be hereafter referred to as welding wire; however, welding wire other than welding wire can be packed in a storage container in accordance the method and process of the present invention. Welding wire 50 is drawn by a capstan 60 driven by a welding wire feed motor 62 connected to a pulley 64 which drives a belt 66. As can be appreciated, the capstan can be driven by other means. As can be seen, the welding wire is pulled over a series of rolls and dancer rolls 70a, 70b and 70c which serve to straighten the welding wire 50 and to set a proper cast to the wire according to specification between the feeder reel or supply reel and capstan 60. As can be appreciated, the welding wire can be straightened and/or set in a proper cast by other or additional means. As can be seen from FIGURE 4, welding wire 50 is wrapped about 270° about capstan 60. This particular configuration provides the desired friction and inhibits or prevent wire twist produced by the rotating laying head from being released upstream as welding wire 50 is drawn across the dancer rolls 70a-70c. Welding wire 50 is fed into a rotatable laying head 80 which is suspended from a winding beam 94. Rotatable laying head 80 rotates within

a bearing housing 100 which is suspended from winding beam 94. Rotatable laying head 80 includes a laying tube 82 and a journal portion 84 extending therefrom and supported for rotation by a flange and a top and a bottom bearing located at the top and bottom ends, respectively, of bearing housing 100. It will be ~~appreciate~~ <u>appreciated</u> that journal portion 84 includes both an outer cylindrical surface for contact with bearings in the interior of bearing housing 100 and an inner cylindrical surface defining a hollow shaft interior which allows welding wire 50 to pass from capstan 60 to laying tube 82.

Please replace the paragraph beginning on page 25, line 3 with the following new paragraph:

Turntable 150 is rotatably driven in a manner similar to laying tube 82. A bearing housing 250 is mounted on horizontal beam 200 of L-shaped beam portion 190. A journal portion [[260]] <u>252</u> extends downwardly from turntable 150 and is allowed to freely rotate by means of the bearings 270 and 272. In accordance with one non-limiting arrangement, journal portion [[260]] <u>252</u> is a cylinder which has an outer cylindrical surface 262 and an inner cylindrical surface for purposes which will be described later. A cogbelt pulley 280 is keyed to the bottom end of journal portion [[260]] <u>252</u>. Cogbelt pulley 280 is connected to a second cogbelt pulley 290 by a belt 300. Cogbelt pulley 290 is driven by a turntable motor 310 through a gearbox 320. Turntable motor 310 is geared down substantially from laying tube 82 in order than turntable 150 only rotates a fraction of a single revolution relative to a full revolution of laying tube 82. As can be appreciated, other designs can be used to rotate and/or control the speed of the turntable.

Please replace the paragraph beginning on page 26, line 7 with the following new paragraph:

The speed and rotational direction of rotatable laying head 80 is controlled to be substantially constant during the packing of the welding wire in the storage container. During the packing process, the rotational direction of the storage container is reversed at least once. The change of rotational direction of the storage container is illustrated in FIGURES 5A and 5B. As illustrated in FIGURE 5A, the turntable rotates the storage container in a clockwise direction as indicated by the arrow D. The rotation of the laying tube is also in the counterclockwise direction as illustrated by arrow C in FIGURE 4. As can be appreciated, the rotational direction of the laying tube can be in clockwise direction. As set forth above, FIGURE 5A illustrates welding wire 50 being fed from rotating laying tube 82 which is rotating in a counterclockwise direction into the

storage container 210 which is [[also]] rotating in a ~~counterclockwise~~ clockwise direction as indicated by arrow [[C]] D. Welding wire 50 has little, if any, memory thus lays flat in the storage container. The position of the welding wire in the storage container is principally dictated by the rotational direction of the laying tube, the storage container and the flexibility of the welding wire. Referring now to FIGURE 5B, an alternative method of packaging the welding wire is illustrated. As shown in FIGURE 5B, the turntable rotates the storage container in the counterclockwise direction as represented by arrow D and the laying tube also rotates in a counterclockwise direction as represented by arrow C. As can be appreciated, other combinations of the direction of rotation of the laying head in combination with the rotation direction of the turntable can be used to achieve the novel packing arrangement of the welding wire in a container. One non-limiting example of the parameters used to pack the welding wire in the storage container, a welding wire having a wire diameter of about 0.04-0.06 inch is fed into a storage container at a rate of about 1500-3000 fpm as the laying tube rotates in a clockwise direction at about 200-800 rpm and the storage container periodically changes rotational direction to rotate in either the clockwise or counterclockwise direction at about 0.01-20 rpm, and more typically about 0.1-10 rpm. As can be appreciated, other parameters can be used.

Please replace the paragraph beginning on page 27, line 11 with the following new paragraph:

FIGURES 8 and 9 illustrate two different methods of controlling when the reversal of direction of rotation of the storage container is to occur. As illustrated in FIGURE 8, the storage container 210 initially begins to rotate in the counterclockwise direction. The laying tube 82 continuously rotates in the counterclockwise direction, typically at a substantially constant speed. The laying tube rotational speed is greater than the rotational speed of the storage container in either the clockwise or counterclockwise direction. The counterclockwise direction of the storage drum is maintained until it is rotated about [[20°]] 40° past the point the wire packing process began. At such point, the direction of rotation of the storage container is reversed such that the storage container begins rotating in the clockwise direction until it is rotated about 20° past the point of the previous reversal of rotation. This pattern is repeat until the storage container is filled with welding wire. The direction of rotation of the storage container can represent a single rotation of a plurality of rotations. For example, the first rotational direction in the counterclockwise direction can

indication the rotation of the storage container of about 380°, 740°, 1100°, etc. Likewise, the second rotational direction in the clockwise direction can indication the rotation of the storage container or about 400°, 760°, 1120°, etc. Likewise, the third rotational direction in the counterclockwise direction can indication the rotation of the storage container of about 440°, 800°, 1160°, etc. This pattern continues until the storage container is filled. The periodic change of the fan-out direction of the wire loops creates a mechanical interlock to inhibit or prevent a continuous sliding of the wire loops in packed drum when the drum is subject to vibration.